Remarks

Claims 1-4 are pending in the application. Claims 2-4 has been amended. Claim 1 has been cancelled. Claim 6 has been added. Reconsideration and re-examination of the application is respectfully requested.

1. The Examiner has rejected claims 1-4 under 35 U.S.C. 102(b) as being anticipated by Chiang (U.S. Patent No. 4,904,896).

a. With regard to claim 1, the Examiner stated that Chiang discloses a cathode employed in a cathode ray tube for emission of electrons comprising a sleeve 25 and a cap 27 containing mainly nickel (more than 95 weight %) and about 0.1 weight % of magnesium. The Examiner, therefore, concluded that Chiang teaches all the elements of claim 1.

Claim 1 has been cancelled. The rejection of claim 1 under 35 U.S.C. 102(b), therefore, is moot.

b. With regard to claim 2, the Examiner stated that Chiang discloses all of the elements as previously discussed and discloses a weight concentration C_{Mg} of magnesium of 0.1% and a weight concentration of C_{Al} of aluminum of 0%, which satisfies the relationship between C_{Mg} and C_{Al} as claimed. The Examiner, therefore, concluded that Chiang teaches all the elements of claim 2.

Claim 2 has been amended to include all of the limitations of its base claim 1 and states that "said alloy also includes aluminum, the weight concentration C_{Al} of which satisfies the relationship: $C_{Al} \leq 0.14 \times (0.1 - C_{Mg})$." Chiang teaches an oxide cathode in a vacuum electron tube comprising a sleeve 25 and a cap 27. The sleeve 25 is an inner layer of a drawn bi-metal and has about 20 weight % chromium and about 80 weight percent %. The cap 27 has more than 95 % nickel and less than 5 weight % of other constituents including about 0.1 weight % magnesium and 4.0 weight % tungsten. The claimed invention requires

the alloy to include aluminum *and* requires the weight concentration of the aluminum to satisfy the given relationship. Chiang does not teach an alloy including aluminum. Chiang, therefore, does not teach all of the claim limitations of claim 2. Removal of the rejection of claim 2 under 35 U.S.C. 102(b) is respectfully requested.

c. With regard to claim 3, the Examiner stated that Chiang discloses all of the elements as previously discussed and discloses that the percentage of surface covered by stable crystallites below the emissive layer of the cathode can include 0%, which is implicitly disclosed by Chiang because the absence of aluminum would result in a null percentage of crystallites covering the surface of the cathode. The Examiner, therefore, concluded that Chiang teaches all the elements of claim 3.

Claim 3 has been amended to include all of the limitations of its base claim 1 and states that "said alloy also contains a weight concentration C_{Al} of aluminum such that, after the cathode has been activated, the percentage of the surface of the alloy below an emissive layer of the cathode covered by stable crystallites is less than or equal to 3%." Chiang teaches an oxide cathode in a vacuum electron tube comprising a sleeve 25 and a cap 27. The sleeve 25 is an inner layer of a drawn bi-metal and has about 20 weight % chromium and about 80 weight percent %. The cap 27 has more than 95 % nickel and less than 5 weight % of other constituents including about 0.1 weight % magnesium and 4.0 weight % tungsten. The claimed invention requires the alloy to contain a weight concentration of aluminum *and* requires the weight concentration of the aluminum to result in an emissive layer of the cathode covered by stable crystallites is less than or equal to 3%. Chiang does not teach an alloy containing a weight concentration of aluminum. Chiang, therefore, does not teach all of the claim limitations of claim 3. Removal of the rejection of claim 3 under 35 U.S.C. 102(b) is respectfully requested.

d. With regard to claim 4, the Examiner stated that Chiang discloses all of the elements as previously discussed and discloses a metal substrate including a layer of emissive material consisting of essentially alkaline earth-metal oxides. The Examiner, therefore, concluded that Chiang teaches all the elements of claim 4.

Claim 4 has been amended to depend from independent claim 2. As previously discussed, Chiang does not teach all of the claim limitations of claim 2. Because Chiang does not teach all of the claim limitations of claim 2, Chiang does not teach all of the claim limitations of claim 4. Removal of the rejection of claim 4 under 35 U.S.C. 102(b) is respectfully requested.

3. Claim 6 has been added to the application. Claim 6 depends from independent claim 3. Because claim 3 is considered to be in condition for allowance for the reasons set forth herein, claim 6 is also considered to be in condition for allowance. Examination of claim 6 is respectfully requested.

In view of the amendments and arguments presented herein, the application is considered to be in condition for allowance. Reconsideration and passage to issue is respectfully requested.

Please charge any additional fees associated with this application to Deposit Order Account No. 07-0832.

Respectfully submitted,
Jean Michel Roquais, Applicant

Carlos M. Herrera
Registration No. 44,762
Attorney for Applicants
Phone: 717.295.6561
Facsimile: 717.295.6084

Date: 11/20/03

Patent Operation
Thomson Licensing Inc.
P.O. Box 5312
Princeton, NJ 08543-5312